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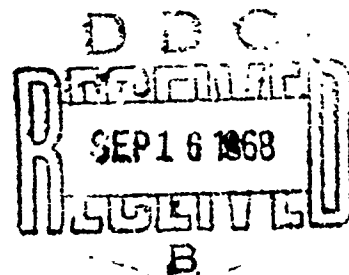
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GONGFEI HAIJUN QIANSHUITING BUDUI GAIKUANG

POSTURE OF SUBMARINE UNITS OF THE COMMUNIST CHINESE NAVY

by

Liu Ch'i-Chun

Abstract

1. At present, Communist China possesses some fifty submarines of various types but, when compared to the breakdown in German submarines employed during the Second World War (35% assigned to training duty, 20% laid up for repairs, 20% in transit and 25% engaged in patrols on the high seas), for example, it is estimated that the number the Communist Chinese could call upon for patrol, reconnaissance and combat assignments is small.

2. In 1958 the Communist Chinese submarine units drafted the so-called "self-teaching doctrine", predicting that this program would be fully implemented "within three years". Furthermore, they initiated training "corresponding to actual situations". Before this, they had used the Soviet submarine training approach. During tactical exercises, "everyone will select an original project", however, this only went as far as "making a decision" as to what to do, the most important phase of instilling proper attitudes--conducting battles and combat--has been curtailed. Because of this, cadres turned out under this training are "half-baked" and "out of touch with reality," indicating the inferior quality of Communist Chinese submarine training.

3. As to their method of deploying submarines, the chief principle is "guerilla warfare at sea" and their modus operandi is to stealthily attack enemy harbors, vital coastal areas and lines of communication; to surprise attack enemy naval ships and shipping; to enter enemy anchorages and observe enemy movements and attack enemy naval ships while they are riding at anchor; to slip through enemy defenses and attack shipping within the defenses; to transport supplies to bases blockaded by the enemy, lay mines and carry out submarine warfare, etc. It is believed that at present, the Communist Chinese submarines' primary mission is to patrol coastal waters and guard against surveillance by enemy submarines.

4. It is possible that the Communists have already started to organize their submarines for tactical exercises in "wolf-pack" attacks, in addition to stressing the training in torpedo attacks.

5. At present, the Chinese Communists do not possess the capability to build nuclear submarines but it is not impossible for them to install equipment to fire short range missiles on their W class submarines.

In traditional naval doctrine, submarines are the principal warships the havenot nations, as they are not only inexpensive to construct but also have the ability to "meet the enemy while hidden under the surface and fire torpedoes" and are the most effective means to gain "control of the seas". The Chinese Communists, when first creating their navy, established their submarine forces on the basis of this concept and on the experience of the Russian's so-called "Great submarine" policy. They were to coordinate with "surface warship units", to assume the responsibility of protecting the coastal waters along their extensive coast and the lines of communication linking the North Sea and South China Sea and of conducting surveillance, infiltration and disruption of shipping. In wartime they were to carry out surprise attacks on enemy fleet anchorages and to sever communications. As to submarine training, the Chinese Communists were totally lacking in experience; their ship building industry was weak and, except for Russian training materials as a foundation and the antiquated submarines supplied by the Russians for training, their submarine potential before 1956 was negligible.

After that, the Chinese Communists started to build their own submarines at Shanghai and Dalien. Moreover, they initiated the anti-dogmatism movement and chose the mass line method. They drafted their so-called "strategic aim" to acquire modern technical equipment and other conditions as regards submarine training<sup>1</sup>, as well as to bolster training in submarine recon, patrol, underwater navigation and evading anti-submarine tactics. Their combat techniques and submarine strength were both improved.

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1. From the Liberation Army News, August 6, 1958

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Today, each of the fleets of the Chinese Communist naval districts possesses about ten boats, give or take a few, and their total number is about fifty boats<sup>2</sup>, already giving them the position of the world's fourth largest submarine power<sup>3</sup>; in particular, in 1960 CHOU-EN-LAI boasted that atomic submarines would be built within five years<sup>4</sup>. Moreover, the commander of the United States Seventh Fleet, Admiral Blackburn, recently disclosed that the Chinese Communist navy posed an "underwater attack menace"<sup>5</sup>; the expansion and activities of Communist China's submarine units have awakened the general attention of the Free World. On the basis of all pertinent material, a discussion on the situation regarding the Chinese Communist creation, training and deployment of submarine units is presented below:

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2. From a statement by Vice Admiral Hsyehyi [transliteration] Commander of the U. S. Seventh Fleet, April 1962.
  3. From a March 26, 1963 release by United Press International, San Francisco.
  4. From an article "The Problem of Communist China's Atomic Bomb" in the Japanese magazine Foreign Affairs, April 15, 1961.
  5. From a Manila United Press International release on March 30 of this year (1965).
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I. THE GENERAL SITUATION REGARDING THE CREATION AND ORGANIZATION OF COMMUNIST CHINA'S SUBMARINE UNITS

1. Creating Phase

In 1949, Stalin, in order to bolster the puppet regimes of Communist China and North Korea, established the Soviet Naval Training Group at CH'INGCHING (CH'ONGJIN) on the east coast of North Korea to train the needed backbone cadres, numbering 1400 men, for the Communist Chinese and North Korean navies, of which the Chinese represented two-thirds. This group established Chinese (Communist)-Korean training classes. The first class consisted of 500 men, of which 400 were Korean. In 1950 the Korean War erupted and these classes were moved to CH'INGTAO

to continue their training. Following the completion of the training in 1953, the men were immediately assigned to HAISHENWEI, LUTA\* and other bases of the Soviet Pacific Fleet [Soviet Far Eastern Fleet] for on-the-job training. At this time, due to the mixed organizational structure, the cadres were simultaneously trained in engine operation (control of diving planes and rudder), conserving power (divided into running on the surface with internal combustion engines and running submerged with electric motors), probing with sonar, operating the periscope, torpedo setting, aiming and firing, gunnery, conning, observation and other activities, to round out individual skills for operating submarines. In the summer of that year, submarines operated by all-Chinese crews were discovered for the first time operating in CH'INGTAO Bay, marking the beginning of a submarine-equipped Communist navy.

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\* TN: Vladivostock, Port Arthur and Darien (Luta is abbr. for Port Arthur and Darien).

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From 1953 until the end of 1954, the Chinese Communists received from the Soviet Union one M-1 class boat for training (displacement=160 tons on the surface, 202 tons submerged) and two S-1 class long range patrol boats (displacement=840 tons on the surface, 1070 tons submerged). In 1955 they obtained two additional S-1 class long range submarines and four SH class medium range submarines (displacement=620 tons on the surface, 738 tons submerged) and four M-5 class short range coastal submarines. Therefore, by the end of 1955, the Chinese Communists submarine force was estimated to have altogether a total of one M-1 class training submarine, four M-5 class short range coastal submarines and four SH class medium range submarines and four S-1 class long range submarines--13 boats in all.

From the end of 1956, the Chinese Communists began to make use of the equipment at our government's abandoned SHANGHAI CH'IANGNAN Shipyard.

With experienced, skilled personnel and precision equipment supplied by the Russians, they started to assemble their own submarines based on the blueprints of the Soviet W class submarine, thereby increasing their underwater attack capability (the W class submarine is a more modern sub built by the Soviet Union after World War II; displacement= 1050 tons on the surface, 1500 tons submerged. Speed=17 knots on the surface, 16 knots submerged--twice as fast as ordinary submarines. It mounts eight 21" torpedo tubes, one 3.9cm gun and two machineguns; it also carries a snorkel, an underwater breathing tube enabling it to travel slightly below the surface and furnishing its engines with an unlimited supply of oxygen for sustained operations. Its maximum range can reach 13,000 nautical miles).

By the end of 1958, the size of the Chinese Communist submarine force had already been expanded to 22 submarines, including six M class short range boats, four SH class medium range boats and twelve W and S-1 class long range boats. In the period since 1956, the communists had reinforced their submarine force with a total of eight S-1 class long range boats, one to two short range boats and medium range boats which, though old, obviously indicate the trend of their submarine force's structure. Among the above mentioned nine boats added by the communists, with the exception of the one M class short range submarine--possibly a gift from the Russians--and the five W class submarines constructed by the communists in the SHANGHAI CH'IANGNAN yards in 1959, are three long range boats believed to have been turned out in the CH'IANGNAN yards between 1956 and 1957.

Beginning in the spring of 1958, the SHANGHAI CHIANGNAN yards, using assembling equipment supplied by the Soviet Union, turned out five W class boats before the end of that year; furthermore, the communists' Dailen yards simultaneously concentrated maximum effort on building submarines, and by the end of that year had completed eleven boats, so that by 1959 the communists has expanded the number of their submarines by a total of sixteen boats, enlarging the force from an original 22 to 38 boats. However, two short range boats were scrapped, so their actual total was 36 submarines of various types.

Also in 1960, the Chinese Communists proposed to build four new W class submarines at SHANGHAI but were stopped because of a shortage in sonar, radar and other equipment. Construction was resumed in 1962 and one boat completed, so that by the end of that year their submarine force had a total number something on the order of fifty boats.

## 2. Organizational Phase

1) Submarine Units of the Chinese Communist South China Sea Fleet:  
Before the end of 1959, patrol and search operations in the waters off South China was entrusted to units of the Soviet Pacific Fleet, using YULIN harbor as a base of operations. Beginning in December of 1959, the communist navy, in order to strengthen the submarine units in the South China Sea, dispatched important cadres accompanied by Soviet advisors to KUANGCHOU to solve the problems of submarine training in the fleet, logistical support and other related matters. At the beginning the Chinese communists transported more than seventy Soviet naval technicians to YULIN harbor by submarine to take charge of the expansion of the submarine repair facility at the 4<sup>th</sup> naval repair yard and other projects at the YULIN base. They increased the shop equipment of the 201 yard of the South China Sea Fleet (we noted that this yard was established in 1956; it is situated in the vicinity of our old HUANGPU [WHAMPOA] Military School in the Pearl River-HSINCHOU area and in 1960 was reported to have the capability to turn out submarines). In the spring of 1960 the communists dispatched submarines to take up stations in the South China Sea.

On the basis of the frequent activity of Chinese Communist submarines in the South China Sea over the past several years (from 1960 to the present), it is judged that they have a submarine strength there of at least eight boats, of which four are M-5 class short range subs, two are S-1 class long range subs and two are W class subs, using YULIN, CHANGCHIANG, [Fort Bayard], SHANT'OU and other harbors as bases or anchorages. They conduct long range surveillance, patrol, search, transport and mine laying assignments off South China and in the East China Sea and the Gulf of Tonkin.

2) The submarine units of the East China Sea Fleet: On the basis of information available, the Chinese Communists at present have ten boats in their East China Sea Fleet, originally under the command of CHAO CH'I-MIN. Among these submarines, it is estimated that there are seven medium size boats and three large and small boats, based at SHANGHAI and CHOUSHAN and assigned to patrol, recon and surveillance duties in the coastal waters off east central China. In July of 1962, the newly opened advance base at TACHEN frequently had medium type subs entering it and there was frequent activity at WENCHOU Bay and SHANSHA Bay and other areas on the East China Sea.

3) The Submarine Units of the North Sea Fleet: The main strength of the Chinese Communist navy lies up in the various bases of the North Sea Fleet, its submarine units being no exception. Although the organization of submarine units under the jurisdiction of the North Sea Fleet is not known in any great detail, since the winter of 1962 the communists opened a new submarine base to the southeast of the western port of LUHSUN (Port Arthur), having four piers to accommodate ten large type submarines. In the past few years the number of submarines in the harbor of CH'INGTAO has increased; recently the extreme submarine activity at the CH'INGTAO navy base has led to the estimate that the North Sea Fleet possesses about twenty boats of various types. Because of this it is possible that the Chinese Communists are following the organization of the Soviet Pacific Fleet submarine units, dividing them into different groups responsible for carrying out coastal, intermediate and long range patrols, surveillance and other combat type duties in addition to coordinating with surface warships.

## II. TRAINING OF CHINESE COMMUNIST SUBMARINE UNITS

Since the Chinese Communists obtained submarines from the Soviet Union in 1953, they immediately, according to Soviet strategic concepts, emphasized submarine training, initially nurturing a cadre around a group established by the Russians to train basic cadres. Later, they formerly established their navy submarine school at CH'INGTAO to train basic and intermediate cadres; in addition, when establishing the submarine school they set up a "navy branch" within the "military academy" to instill in intermediate and advanced cadres a knowledge of strategic concepts and



leadership ability (this department was divided into basic and advanced classes, the former being a four-year course and the latter two and one-half years). Since 1956 the above mentioned submarine training units have displayed absolutely no capacity for originality. This is evidenced by the following:

1) training doctrine and a number of tactical concepts are geared to the backward "practical construction" of the Chinese Communist Armed Forces;

2) in their training they commonly refer to the enemy as "unwilling to fight," to conform to the party line of "despising the enemy." However, in battle they withdraw this "low opinion of the enemy;"

3) the material is voluminous and the time is short. The results are not satisfactory;

4) presentation of the material is not communicative and it lacks cohesive structure. The material is digressive and repetitious and only half prepared by the instructors;

5) the instruction approach is that of the "drumming in method" and does not create any originality in the students;

6) each tactical problem is only carried to the point of "reaching a decision," combat--the most important part of forming the student's leadership ability--is omitted.<sup>6</sup> This clearly explains why Chinese Communist submarine training is divorced from reality.

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6. From the Liberation Army News, October 13, 1956.

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Since 1958 all of the Chinese Communist Armed Forces have taken up the anti-dogmatism rectification movement. The navy's submarine school, during the educational reform movement to "cast aside dogmatic ideas--develop a spirit of originality," investigated anew ways to improve. They drew up various training programs, choosing the "mass line" method, assimilating the Army's experience and "tradition of valor." Moreover, they took the military thought of MAO TSE-TUNG as a basis to draft their strategic aims and to determine the navy's technical posture,

instruction standards and required teaching materials and lectures. During the preparation phase of the program, the school's "party committee members" participated directly, organizing "cells to draw up training," and assumed control over all the work of organizing the school. Furthermore, they called discussion meetings for instructors to discuss how to draft the training program, and to overcome obstacles of "inferiority complexes" and "mechanical reflexes." If the Chinese Communists felt that in the newly established navy the submarine was of prime importance, could they, without combat experience of their own, create their own training program without borrowing from other countries? Was the army's "tradition of valor" adaptable to the operation of warships? Was it correctly guided for combat and training? Could the military thought of MAO TSE-TUNG and the military's tradition, suitable for the army, be adapted by the navy as well? The Communists stated that since the solution to these problems had been found, they could not only put the work of drawing up training materials into action, but also change past practices of running to libraries, interviewing important persons, taking extracts from documents" to "running to units, running to factories, running to student officer classes, conducting actual investigatory studies. For example, when drafting the teaching material concerned with "torpedo serialization inspection" and "maintenance regulations, the personnel responsible quite often conducted on-the-spot investigations in submarine units, requesting the advice of "torpedo officers," "division heads," non commissioned officers" and "base repair shop" technicians. After the first draft had been completed, the opinion of the students was solicited. Hence, based on actual usage of technical equipment in the units, the original teaching material was strengthened with items heretofore lacking. In addition, through personal examination and observation, the requirement set forth in the original training material of "separate inspection for the airtightness of rudder and rudder safety valve" was changed to one inspection, "not only for correct usage, but also for easy recording." The Communists have stated that during the period of April to August in

1958, 21 lesser training aids were produced and were in the process of drafting 17 more, planning to have, within three years, more than forty major and minor training materials to complete the program, estimated to contain some 2,740,000 words [characters]. The above is the initial step taken by the Communists' submarine school in their striving to fulfill the submarine training.

However, after the instruction in the Communists' Naval Academy (including the submarine school) has been reorganized, will the blossom of the teaching reform bear abundant fruit? This can be explained through examination of Communist Chinese submarine combat exercises and diving operations conducted before and after the teaching reform: In the first half of 1957, several subchasers and submarines of a certain unit of Communist Chinese navy conducted an "eight-part antagonistic exercise." Each part was conducted at different "prearranged areas and times"; the chief goal of the exercises was for one side's submarines to conduct reconnaissance of the area without being caught by the subchasers, and for the opposing side's subchasers to hunt down the submarines using air observation. In these eight exercises, the Communist subchasers achieved "seven victories and one defeat," while the submarines suffered seven defeats and attained one victory. This points out that if even with Communist subchasers, totally lacking in ASW experience, the submarines were unable to accomplish their reconnaissance and evasion missions, would they have hope for anything but defeat if they were hunted by an enemy possessing perfect order, modern technology and vast experience in antisubmarine warfare?

Next, the Communists have announced that in the fall of 1959, the submarine No. 94 had been lost. At the beginning of the third day of running submerged, the crew, because it had been completely out of communication with the outside world, did not know what the weather was like. But the experienced hands, judging from the way the boat was rocking--already exceeding a 15° roll--knew that at least a force 8 gale was up on the surface. With each roll of the boat, the strength of the sailors was sapped that much more; now the inside temperature had exceeded the body temperature of the men, reaching 40°C and even though

the sailors were stripped to the waist, they were still covered with sweat. The oxygen content of the air had already been depleted to 2% and the air pressure had increased twofold. At this time, everyone, in addition to feeling extremely fatigued and "uneasy", underwent a complete loss of appetite. People who "could ordinarily eat anything could not even get chicken down." Without eating, one is unable to function properly and only a little negligence is required before machinery develops a malfunction. Control of the diving planes and rudder was lost, resulting in the subs' sinking to the bottom. No wonder that in February of 1960, a Communist Chinese submarine, on a training mission in the YANGTSE River, accidentally sank with a large loss of life. This proves the success of the Communists' submarine training and points out that absolutely no progress has been realized through the teaching reforms.

In 1959, Communist Chinese submarines started to conduct patrol activities along the coast, running submerged for periods of ten days.<sup>11</sup> This would indicate that their primary training had been completed. In the past several years they have conducted exercises coordinated with surface units and the Air Force. Recently, almost all collective exercises conducted by submarines have been judged to be exercises geared to attacks on enemy shipping and naval vessels, but whether any success has been achieved awaits further proof.

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11. From an intelligence report, February 27, 1961.

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### III. SITUATION CONCERNING DEPLOYMENT OF COMMUNIST CHINESE SUBMARINE UNITS

Communist Chinese submarine supplies, personnel training and teaching doctrine standards as well as types of submarines constructed, base construction and the method decided upon to conduct combat on the high seas can almost entirely be attributed to the single-handed effort of the Soviet Union. Because of this, their strategic planning and tactical

deployment must follow that of the Soviet Union. Therefore, before we study the deployment of Communist Chinese submarines, it is necessary to outline the Soviet Union's use of submarines.

1. Deployment of Submarines by the Soviet Union

The Soviet Union has a keen interest in submarines and in the past few decades has expended a great deal of effort on their building, one reason being that they are economical to build and another being that they possess features conforming to Lenin's approach of "to attain a goal, do not be choosy about the means." Submarines not only possess the ability to use the sea as "a cover," preventing them from being discovered by the enemy, they also have the capacity to stealthily approach enemy ships and harbors to conduct reconnaissance, mine laying and torpedo attacks.

In World War II, Russia's 250-odd submarines were divided among the four naval districts of the Baltic, Black Sea, the Arctic and the Pacific to coordinate with surface warship units and were assigned to coastal defense. In combat, although they sent a certain amount of German naval and maritime shipping to the bottom, they lost about two-fifths (or about 100 boats) of their submarine force.

After World War II--from 1950 on--the Soviets began to concentrate on building up their submarine force, expanding it by 60 to 70 submarines a year, so that by 1957, discounting a number of older boats that had been scrapped, they actually possessed about 500 boats, or roughly 9 times the force Germany opened the Second World War with (in 1939 Germany had 57 subs). They have extended Germany's past strategic concept of severing shipping in the Atlantic with a wild scheme to, in conventional warfare, choke Free World shipping in the Pacific, Atlantic and Indian Oceans and to deprive it of control of the coastal waters of Europe and Asia and to initiate aggression on a limited scale on the shores of Asia, the Mideast and Western Europe; in all-out war, they would unleash missiles with nuclear warheads against the Free World's critical bases and industrial areas.

Russia, in order to realize the aforementioned submarine offensive strategy, took the following steps: The first was to reform their submarine program and at the same time provide for qualities of "stability, mobility, high speed" and the longest range, incorporating these into the aim of "using torpedoes to attack shipping". At present the Russians have four classes of long range submarines, namely, the W, Z, K and Q classes, all possessing the aforementioned qualities. The second was to build submarines, on a massive scale, which would be used in war in "wolf-pack" attacks. It is believed that at present the Russians have 150 W class submarines, this class having a maximum range of 13,000 nautical miles; 75 big Z class submarines, these having a maximum range of 7,000 nautical miles. In addition, they have roughly 150 to 200 short range coastal defense-patrol submarines<sup>12</sup> that could be deployed in coastal or deep waters for attack. Also, the aforementioned Z and W class submarines can fire missiles similar to the American Polaris from internal tubes, or air breathing missiles from deck-mounted launchers.<sup>13</sup> The third is, that in establishing submarine bases overseas, the Soviet Union avoids the threat of being blockaded and reduces the time needed to deploy and return to base. Mainland submarine bases are frequently blocked by ice and are, moreover, far from the Free World's military bases. At present the Soviet Union is using--or opening--the bases enumerated below: In the Mediterranean --in addition to Albanian ports--they have access to Egyptian, Syrian and Yugoslavian ports. In the Western Pacific they have Chinese Communist and North Vietnamese controlled ports and ports in Indonesia, in the Caribbean, Cuban ports and in North Africa they have the new and friendly Communist countries such as Ghana, Guinea and others.<sup>14</sup>

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12. From a Rueter's News Agency release, London, 1960

13. From the August 1958 issue of the weekly Missiles and Rockets, article entitled "The Threat of Soviet Submarines" ("The Soviet Submarine Threat")

14. From a publication by the American Professor, Anthony, Naval Doctrine in the Nuclear Age, September 9, 1962

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## 2. Red China's Use of Submarines

### 1) Modus operandi of Red China's Submarines

MAO TSE-TUNG's military concepts are based on the following: In 1958, when the Chinese Communist navy turned from conventional training to revolutionary activities and drafted training programs for their submarine force, the chief stress was to follow the military thoughts of MAO TSE-TUNG, using them as a basis for strategy. After heated arguments, they unanimously agreed upon the military thoughts of MAO TSE-TUNG (not only in the Army but in the Navy as well).<sup>15</sup> This defines the principal Chinese Communist method of submarine deployment. When combat is conducted with inferior equipment, MAO's directive is: Conduct guerilla warfare, combining a number of small victories into an overall victory; attack, divide and isolate the enemy, strive for local superiority, etc., etc. The Communists state that the main reasons for this being: 1) The Communist Navy is now actively introducing "guerilla warfare on the sea," planning to turn "small victories into overall triumph." 2) Because "submarines possess the capacity to carry out guerilla warfare, subs, on a mass scale, could "seek out the weak points of a strong enemy, split up concentrations of the enemy and find the weak link in an inpregnable defense." 3) Since Chinese Communist surface warships could not possibly match western naval powers, they concentrate on developing an undersea strength to achieve local superiority, to upset the enemy's naval superiority, to attain control of the seas, to develop "sufficient tactical creativity and daring conduct, to use intricate and night situations to destroy major and medium enemy warships."

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15. From the Liberation Army News, August 8, 1958

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2) The Chinese Communist strategic plan is: The short range view is defense; the long range view is attack. However, based on MAO TSE-TUNG's dialectical method, its offensive, defensive, mutual contact and mutual support concept is "in an attack, defend, in defense, attack; turn from

the attack to defense and from the defense to attack." Because of this the Communists' present strategic goal is a combination of the offensive and defensive. Their submarine development has followed the progression outlined below: Before 1956, submarine training and exercises were defense-oriented; from 1957 to the present, they have gradually turned to the offensive. In the first half of 1957 they conducted eight recon exercises under the cover of subchasers.<sup>16</sup> Following this they made ten-day trial submerged runs. In August of 1959, Admiral Howard, commander of the U. S. Pacific Fleet disclosed that the Chinese Communists were operating Russian built submarines in the western Pacific<sup>17</sup>. In November of the same year, the U. S. Pacific Fleet Headquarters in Hawaii disclosed that Chinese Communists and Russian submarines had been discovered together in the Pacific. In March of 1963, the commander of antisubmarine forces in the Pacific, Vice Admiral Thach, in an interview in Australia, stated that using the submarines supplied by the Soviet Union, the Chinese Communists have become "the world's fourth largest submarine power,"<sup>18</sup> and called upon all free nations to band closely together, to form an effective counter to Russian and Chinese Communist increase in submarine strength. In the same year (1963), Indian authorities made a special proposal to establish the needed submarine force as a deterrent to the Communist threat on the seas. They also announced that they had already discovered four communist spy trawlers active in the Bay of Bengal (these trawlers are equipped with electronic communications and radar equipment which can be used to direct submarine activities)<sup>19</sup>. On March 31, 1965, the commander of the American Seventh Fleet, Blackburn, disclosed in Manila that the communist navies, containing a number of submarines, have become a "dangerous hidden threat" in the Pacific.<sup>20</sup> All this indicates that communist submarine activities have apparently also started in the Indian Ocean and Southwest Pacific to be used in time of war to launch attacks.

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16. From the Liberation Army News, January 1, 1958

17. From a BBC Broadcast, August 26, 1958

18. From a March 26, 1963 Release by United Press International, San Francisco



19. From an American Associated Press release in Calcutta, April 18, 1963
20. From a Manila United Press International release on March 30 of this year (1965)

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3) At present the Chinese Communists possess M-1, M-5, SH, S-1 and W class submarines. Of these, the M-1 and M-5 classes are modifications of the Russian M class submarine of World War II. Their tonnage is light (about 200 tons) and their operating radius is not great. They are only suitable to be used as coastal patrol boats; the SH class intermediate range submarines (about 600 tons) are old Russian pre-World War II submarines having a low speed, and have long since ceased to be constructed. The S-1 class long range submarines are also pre war Russian submarines, having a displacement of approximately 800 tons which were turned over to the Chinese Communists after being declared obsolete by the Russians. As to the W class long range submarines, Russia, after the Second World War, copied the German type XXI submarine (the most advanced type of submarine prior to the termination of World War II), and improved it. It possesses the ability to reach depths beyond that of ordinary submarines and has a comparatively greater speed (approximately 16 knots--twice that of ordinary subs). It also is equipped with an underwater breathing tube for sustained operations and avoiding the danger of surfacing and exposing itself as a target. It can also fire air breathing guided missiles. After Russia made the designs for this type of submarine available to the Chinese Communists, the Chinese began to assemble them themselves, making the W class the mainstay of their submarine "fleet" type attack submarines.

Because the situation regarding the equipment of Chinese Communist submarines is not yet fully known and due to a shortage of material, there is no way to render an evaluation. However, based on the knowledge that:

1. The decks of Russian W class submarines have been equipped with gear to fire air breathing guided missiles.
2. In 1958, LIU YA-LOU, the commander of the Chinese Communist Air Force, boasted that, "before long, China's workers and scientists will definitely be able to manufacture sufficient nuclear weapons and guided missiles."<sup>21</sup>
3. PENG TE-HUAI

[CHICOM personality], serving as the head of the Ministry of Defense, indicated a long range program to construct 300 submarines.<sup>22</sup> 4. In 1960 CHOU EN-LAI bragged that atomic submarines would be built within five years. 5. In the last few years it has been discovered that the Chinese Communists possess torpedo boats equipped with guided missiles,<sup>23</sup> and other situations, it is judged that the Chinese Communists could, under one authority combining economics, science and the ship building and electronics industries, quickly develop nuclear submarines. In addition, using Soviet experience in submarine construction they can install equipment to fire guided missiles on W class submarines. In addition to increasing the number of submarines, they are also making up deficiencies in their surface warship strength.

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21. From the bi-monthly Communist publication New China, #12, Page 23, 1958

22. From an intelligence Report, December 1958

23. From an intelligence Report, January 14, 1961

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4) The Chinese Communists consider their most important combat objective to be the naval power of the United States Seventh Fleet (possessing 125 modern warships, 650 aircraft and 64,000 combat personnel), which they cannot possibly hope to oppose with their navy. Its tactics are to use its fast, mobile sea bases (aircraft carriers) powerful air arm and surface firepower to destroy any enemy surface opposition. Its combat goals are to obliterate enemy harbors, bases and other vital areas and communications facilities. However a serious problem exists in the passive attitude taken toward defense against the sly tactics of Chinese Communist submarines. But due to the advancement of modern ASW techniques and the improved tactics in hunting submarines, and the inferior position of Communist Chinese submarines, their "corresponding counter measure" is nothing more than the approach to combat of MAO TSE-TUNG of pitting inferior equipment against superior equipment; this is in keeping with "engaging the enemy in a war of attrition, in which we can be equal";

"devise means to preserve oneself and destroy the enemy". "Be thoroughly familiar with the character of enemy forces as well as knowing all the other aspects of warfare, such as politics, economics, geography, climates, etc.; to grasp the rules governing actions and apply these rules in warfare." Specifically, to use the air forces, surface ships and all other means to gather intelligence on the enemy and, with radio communications, direct submarines in tracking and closing with the enemy; to deliver attacks from underwater against enemy warships, bases, harbors to sacrifice a few in exchange for a heavy toll of the enemy; this is the criterion of the Communist Chinese submarine force.

3. Principal usage of the Communist Chinese Submarine Force

On the basis of information revealed from Communist Chinese sources,<sup>24</sup> the principal usage of the Communist Chinese submarine Force is as follows:

1. to deliver surprise attacks from concealment on enemy harbors, important coastal areas and lines of communication; to wait for enemy warships and merchantmen to pass and then deliver surprise, fierce torpedo attacks against them
2. secretly slip into enemy naval anchorages and fire torpedoes at navy ships and shipping while they are lying at anchor
3. lay mines in enemy harbors and shipping lanes.
4. conduct secret surveillance of areas of enemy coasts and military harbors as well as enemy ships
5. secretly transport agents and infiltrate them along enemy coasts
6. pass through enemy defense zones and land arms, munitions and other equipment in bases under enemy blockade
7. be responsible for routine patrols along the coasts and defense against surveillance activities by enemy submarines
8. in antisubmarine warfare, attack enemy submarines
9. coordinate with the Navy and Air Force in all-out attacks on enemy naval formations
10. be responsible for rescuing personnel in distress at sea.

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24. From the Communist "Navy", pamphlet, 1957

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#### 4. Communist Chinese Employment of Submarines

1) During the Second World War the German submarine N-47 penetrated the British base at Scapa Flow and sank the battleship ROYAL OAK.<sup>25</sup> Five American midget submarines then secretly slipped into the German controlled ADUNISIA [Transliteration] Fjord and crippled the battleship TIRPITZ.<sup>26</sup>

2) Today, in the era of guided missile weaponry, modern armaments have been developed possessing the ability to reach great altitudes, tremendous speeds and long striking ranges, giving submarines increased versatility and punch, creating a more effective means for "self preservation".<sup>27</sup>

3) In order to prevent its lines of communication from being destroyed and to prevent foreign submarines from using long range guided missiles to attack its mainland by surprise, the United States has expended every effort to find "means to cope with submarines on the open sea."<sup>28</sup> It is held that the most effective use of submarines is to coordinate with surface units and their auxiliaries to use rough weather, feints, concealment and other methods to carry out "guerilla warfare at sea," to "occupy gaps left open by the enemy," to destroy enemy shipping, large and small formations of ships and to conduct reconnaissance disrupt enemy shipping, large and small formations of ships and to conduct reconnaissance disrupt enemy observation and communications, to await opportunities to mount surprise attacks enemy bases and anchorages, to reconnoiter enemy waters as well as to lay mine fields.<sup>29</sup> The Communist Chinese state that the guerilla warfare method is "used by strong powers as an auxiliary tactic, and by weak powers to gain eventual victory."

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25. From the Liberation Army News, January 12, 1958

26. From the Liberation Army News, January 12, 1958

27. From the Liberation Army News, January 12, 1958

28. From the Liberation Army News, January 12, 1958

29. From the Liberation Army News, January 12, 1958

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The central theme of this kind of tactic is "to use a force that is small but vigorous to attack an objective that is weak and little, to carry out a mission when there is a certainty of maneuverability, to

use divided command without strict, rigid control and mobility will be greater."<sup>30</sup> Their principal demand is to use modern weaponry and a force possessing a high level of technical training to conduct missions under conditions of foul weather or darkness;<sup>31</sup> to disperse when on the move and to regroup at the right moment; provisions must be made for the maintenance of technical installations so they can be dispersed and moved rapidly, but with suitable technical requirements. Installations within an area should be simple, easy to repair and easy to construct, to be used when necessary, but it is necessary that they meet the technical requirements for mobility of the troops. At the same time, definite training areas must be provided for.

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30. From the Liberation Army News, January 12, 1958

31. From the Liberation Army News, January 12, 1958

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In the command organization, there must be highly developed radio and observation reporting networks and to rely on observations coming from both military units and the populace.<sup>32</sup> In order to maintain a favorable position, the command must accordingly emphasize "that in combined operations, the sub-divisions (or sub-districts) under a unified command must control the individual movements of troops and be able to precisely execute commands on time." In actual practice, they must be able to display sufficient tactical initiative and vigorous action, to be able to make use of foul weather and darkness and to make use of favorable terrain to find a strong enemy's weak points, to scatter a concentrated enemy and to find the weak link in a strong defense, in addition to seeking surprise tactics to approach an enemy and inflict heavy losses on him.

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32. From the Liberation Army News, January 12, 1958

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## 5. Reconnaissance and Evasion

In sea warfare, whether submarines are employed to attack enemy warships, transports or cargo ships, to conduct ambushes around enemy naval bases, to set up traps to snare enemy naval units, to prevent enemy warships from invading ones waters, or to conduct submarine warfare in coastal waters, the primary requirement is to have precise knowledge of the enemy's situation. Today, particularly in light of ASW developments, reconnaissance and evasion are the most important aspects of submarine operations.

As a result of this, the Communist Chinese are most seriously concentrating on tactical exercises in these two areas. In December of 1958, a certain unit of the Communists's navy, with three subchasers and one submarine, conducted a "battle of wits at sea" exercise which required that, within a prescribed area and time, the submarine must conduct a reconnaissance of the area without being caught by the subchasers and the subchasers, under the direction of air observation, must hunt down the submarine. In preparation, both sides inspected their machinery, filled out record sheets, studied hypothetical situations and decided how best to accomplish their missions: The submarine, at the crack of dawn, under conditions of a dense overcast, thick fog and with a force of 5 to 6 sea running, started to conduct its reconnaissance in a half submerged position. Immediately, an aircraft was discovered approaching from the side and the Communist submarine commander at once issued the order, "combat alert, crash dive!", taking the sub down to fifteen meters, where it was completely cut off from the outside world and moved about blindly. At this time a unique but dependable eye is brought into play --sonar--picking up incoming and outgoing sound waves. In accordance with his predetermined plan, he "runs to the north." After a period of ten minutes he zig-zags and "heads to the east," to fool his opponent, thinking that he will have already turned about to the northerly course. By running to the southeast, his zig-zag course has reduced his opponents sonar search area. After approaching the southeast corner of the range, he again alters his course, running north along the eastern boundary of the range and passing between two of his opponents subchasers, falling

into his "snare". At 9:35, sonar suddenly reports, "sound approaching, bearing 73°!" The Communist skipper immediately gives the order for "all hands to listen for incoming sound waves." At once the ship is as quiet as death, and all lighting in the compartments is doused to conserve electricity for "underwater mobility", and "to avoid the enemy at flank speed". At 10:12 the situation has become tense; outside, from bearings of 38° and 48°, probing sonar waves are discovered. Moreover, the range in the 48° direction is down to only one kilometer. The skipper makes a decision and orders, "port 40°!" to avoid his opponents' search. After a brief period, the "tracking waves disappear!" So far the submarine has managed to evade the subchasers' first search.<sup>33</sup>

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33. From the Liberation Army News, January 4, 1958.

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From this actual submarine combat exercise, it can be seen that:

1. they are able to make use of foul weather to carry out reconnaissance;
2. attention is focused on discriminating sonar waves as a basis for determining what the situation is and what course to follow;
3. they seek every method to avoid search and encirclement tactics. But their stealth and cunning are not sufficient to preclude their being discovered.

#### IV. CONCLUSION

1. The size of the Chinese Communist submarine force has already approached that number possessed by Germany on the eve of the Second World War (in 1939, Germany possessed 57 submarines). In the initial phase of the Second World War (from 1940 to 1943), German submarines inflicted frightful losses on allied shipping (about 21,000,000 tons). The Communists' development of their submarine force has awakened the interest of the nations of the Free World. In the initial phase of the Second World War, ASW in the allied navies was in the embryonic stage, allowing German submarines to have the upper hand in the battle of the Atlantic. Later, ASW tactics and technology were improved, and surprise attacks by German submarines became less of a threat. This can be proven

by the fact that the beginning of 1942, the Allies were losing three ships for every enemy submarine they sank; a year later the ratio was two ships lost for every submarine and in 1944, the ratio was reversed to two for one in favor of the allies. Modern ASW techniques, equipment and organization have undergone tremendous improvement and are more than sufficient to cope with conventional submarines, such as those possessed by the Communist Chinese.

2. As to the question of Red China's constructing atomic submarines, CHOU EN-LAI boasted in 1960 that it would be possible to complete an atomic submarine within five years, but the precedent set by the United States and Russia, in their development of atomic energy, proves Chou's ignorance. In 1942, America installed a complete atomic furnace and in August of 1945 conducted the first atomic explosion. Russia installed an experimental type atomic furnace in the spring of 1947 and carried out its first test explosion in September of 1949, requiring a period of about 2 1/2 years. In March of 1958 (our year 47) the Chinese Communists, with Russian aid, installed an "experimental type atomic reactor pile" and in October of 1964 conducted their first test explosion, requiring more than 6 1/2 years, or more than 2 1/2 times the period needed by the United States and Russia. Both the United States and Russia spent twelve years to complete their first nuclear submarines and England spent sixteen (in April of 1963, England commissioned its first nuclear sub, the VALIANT). France will begin construction of a nuclear submarine by 1970. It took the Chinese Communists 2 1/2 times as long as the United States and Russia to conduct its first atomic test blast and it is calculated that the Communists will be able to construct their first nuclear sub by the year 1988. Even if they expend maximum effort, the current scientific, industrial and economic situation would not permit them to produce one before 1970. This is based on the best of our knowledge.

3. Both submarine and antisubmarine warfare are types of wars of attrition on the seas. The former's objective is to inflict heavy losses on the opposing side's naval forces and shipping, bringing about the collapse of its economy and severing its support, forcing it to capitulate.



The objective of the latter is to destroy the enemy's submarines or prevent them from getting close to their shipping or to blockade harbors and bases, denying the submarines access to the open sea. In order to achieve the destruction of the enemy's submarines, it is imperative to first gather all information on enemy sub bases, repair facilities, dispersion, concentrations and supply situations and especially on enemy submarine recon, search and attack capabilities.

Afterwards, employ surface convoys, air reconnaissance, submarine reconnaissance and other means, making use of radar, electronic communications, sonar, loran, sonobuoys and other methods of detecting submarines--the assassin, automatic depth charges, homing torpedoes, antisubmarine rockets and other armament, and to later effect the destruction of bases of operations, supporting industry, etc. It is obvious, then, that the several tens of submarines possessed by the Communist will not be difficult to obliterate.